

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A hybrid driving unit, comprising:
 - an input shaft for inputting motive power from an internal combustion engine;
 - an output shaft disposed on an axis in line with said input shaft and interlocking with driving wheels;
 - a first electric motor disposed on said axis and comprising a first stator and a first rotor;
 - a power splitting planetary gear disposed on said axis and comprising a first rotary element coupled with said input shaft, a second rotary element coupled with said rotor of said first electric motor and a third rotary element coupled with said output shaft;
 - a second electric motor disposed on said axis and comprising a second stator and a second rotor; and
 - a transmission disposed on said axis and shifting and transmitting revolution of said second rotor of said second electric motor to said output shaft, wherein: said first electric motor, said power splitting planetary gear, said second electric motor and said transmission are stored in a casing member while being disposed in line on said axis;
 - said first and second stators of said first and second electric motors, respectively, are fixed to said casing member;

said casing member is provided, at a front end thereof, with a coupling section ~~which can~~ be fixed to said internal combustion engine and at a rear end thereof, with a mounting section ~~which can be~~ supported by a vehicle body; and

said second electric motor is disposed in a rearmost part with respect to said power splitting planetary gear, said first electric motor, and said transmission disposed along said axis in said casing member.

2. (previously presented): The hybrid driving unit as set forth in Claim 1, wherein supporting members extending from said casing member support both sides of said second rotor, disposed in the rearmost end through an intermediary of bearing members; and

said mounting section is provided at the position axially overlapping with a rear supporting member of said supporting members.

3. (previously presented): The hybrid driving unit as set forth in Claim 2, wherein said output shaft is disposed through the inner peripheral side of said second electric motor and is supported by said second rotor through an intermediary of bearing members.

4. (previously presented): The hybrid driving unit as set forth in Claim 1, wherein said first electric motor is disposed in a foremost position with respect to said power splitting planetary gear and said transmission disposed on said axis in said casing member.

5. (previously presented): The hybrid driving unit as set forth in Claim 4, wherein supporting members extending from said casing member support said first rotor of said first electric motor through an intermediary of bearing members, and said input shaft is coupled with said power splitting planetary gear through an inner peripheral side of said first rotor of said first electric motor and is supported by said first rotor of said first electric motor through another intermediary of bearing members.

6. (previously presented): The hybrid driving unit as set forth in Claim 4, wherein said first electric motor, said transmission, said power splitting planetary gear and said second electric motor are disposed in order from a side closer to said internal combustion engine.

7. (previously presented): The hybrid driving unit as set forth in Claim 6, wherein said input shaft passes through an inner peripheral side of said first electric motor and said transmission and is coupled with said first rotary element, and said output shaft passes through an inner peripheral side of said transmission and said second electric motor.

8. (previously presented): The hybrid driving unit as set forth in Claim 7, wherein said power splitting planetary gear comprises a single pinion planetary gear train;

said input shaft passes through an inner peripheral side of said power splitting planetary gear and is coupled with a transmission side of a carrier of said single pinion planetary gear train;

said output shaft passes through between said power splitting planetary gear and said transmission and is coupled with a ring gear of said single pinion planetary gear train; and

said first rotor of said first electric motor is coupled with a sun gear of said single pinion planetary gear train.

9. (withdrawn): The hybrid driving unit as set forth in Claim 7, wherein said power splitting planetary gear comprises a single pinion planetary gear train;

said input shaft passes through between said first electric motor and said power splitting planetary gear and is coupled with a carrier of said single pinion planetary gear train on a side of said first electric motor;

said output shaft is coupled with a sun gear of said single pinion planetary gear; and

said first rotor of said first electric motor is coupled with a ring gear of said single pinion planetary gear.

10. (withdrawn): The hybrid driving unit as set forth in Claim 7, wherein said power splitting planetary gear comprises a double pinion planetary gear train;

said input shaft passes through an inner peripheral side of said power splitting planetary gear and is coupled with a ring gear of said double pinion planetary gear train;

said output shaft passes through an outer peripheral side of said power splitting planetary gear and between said first rotor of said first electric motor and said power splitting planetary gear and is coupled with a carrier of said double pinion planetary gear train on the first electric motor side; and

said first rotor of said first electric motor is coupled with a sun gear of said double pinion planetary gear train.

11. (withdrawn): The hybrid driving unit as set forth in Claim 7, wherein said power splitting planetary gear comprises a double pinion planetary gear train;

said input shaft passes adjacent to said first electric motor and said power splitting planetary gear and is coupled with a ring gear of said double pinion planetary gear train;

said output shaft is coupled with a sun gear of said double pinion planetary gear; and

said first rotor of said first electric motor is coupled with a carrier of said double pinion planetary gear on a transmission side through an outer peripheral side of said power splitting planetary gear.

12. (withdrawn): The hybrid driving unit as set forth in Claim 4, wherein said second electric motor, said transmission, said power splitting planetary gear and said first electric motor are disposed in order from a side closer to said internal combustion engine.

13. (withdrawn): The hybrid driving unit as set forth in Claim 12, wherein said input shaft is coupled with said first rotary element through a second inner peripheral side of said second electric motor and said transmission;

said output shaft passes through a first inner peripheral side of said first electric motor;
and

an output element of said transmission is coupled with said output shaft through an outer peripheral side of said power splitting planetary gear.

14. (withdrawn): The hybrid driving unit as set forth in Claim 13, wherein said power splitting planetary gear comprises a double pinion planetary gear train;

said input shaft passes by said transmission and said power splitting planetary gear and is coupled with a ring gear of said double pinion planetary gear train;

said output shaft is coupled with a carrier of said double pinion planetary gear on a side of the transmission through a third inner peripheral side of said power splitting planetary gear;

said first rotor of said first electric motor is coupled with the sun gear of said double pinion planetary gear; and

said output element of said transmission is coupled with a carrier of said double pinion planetary gear on the transmission side through the outer peripheral side of said power splitting planetary gear.

15. (withdrawn): The hybrid driving unit as set forth in Claim 13, wherein said first electric motor, said transmission, said power splitting planetary gear and said first electric motor are disposed in order from a side closer to said internal combustion engine.

16. (withdrawn): The hybrid driving unit as set forth in Claim 15, wherein said input shaft is coupled with said first rotary element through a first inner peripheral side of said first electric motor, said transmission and said power splitting planetary gear; said output shaft passes through a second inner peripheral side of said second electric motor;

an output element of said transmission is coupled with said output shaft through an outer peripheral side of said power splitting planetary gear; and

said second rotor of said second electric motor is coupled with an input element of said transmission through the outer peripheral side of said power splitting planetary gear.

17. (withdrawn): The hybrid driving unit as set forth in Claim 16, wherein said power splitting planetary gear comprises a double pinion planetary gear train;

said input shaft passes through a part between said power splitting planetary gear and said second electric motor and is coupled with a ring gear of said double pinion planetary gear train;

said output shaft is coupled with a carrier of said double pinion planetary gear on a side of said transmission through the outer peripheral side of said power splitting planetary gear;

said first rotor of said first electric motor is coupled with a sun gear of said double pinion planetary gear through the inner peripheral side of said transmission; and

said output element of said transmission is coupled with said carrier of said double pinion planetary gear on a transmission side.

18. (withdrawn): The hybrid driving unit as set forth in Claim 1, wherein said power splitting planetary gear, said first electric motor, said transmission and said second electric motor are disposed in order from a side closer to said internal combustion engine.

19. (withdrawn): The hybrid driving unit as set forth in Claim 18, wherein said output shaft passes through an inner peripheral side of said power splitting planetary gear, said first electric motor, said transmission and said second electric motor.

20. (withdrawn): The hybrid driving unit as set forth in Claim 19, wherein said power splitting planetary gear comprises a single pinion planetary gear train;

said input shaft is coupled with a front side of a carrier of said single pinion planetary gear train;

said output shaft is coupled with a sun gear of said single pinion planetary gear train; and

said first rotor of said first electric motor is coupled with a ring gear of said single pinion planetary gear train.

21. (withdrawn): The hybrid driving unit as set forth in Claim 19, wherein said power splitting planetary gear comprises a single pinion planetary gear train;

said input shaft is coupled with a carrier of said single pinion planetary gear train on a side of the first electric motor;

said output shaft is coupled with a ring gear of said single pinion planetary gear through a part between said power splitting planetary gear and said first electric motor; and

said first rotor of said first electric motor is coupled with a front side of said carrier of said single pinion planetary gear through an outer peripheral side of said power splitting planetary gear.

22. (withdrawn): The hybrid driving unit as set forth in Claim 19, wherein said power splitting planetary gear comprises a double pinion planetary gear train;

said input shaft is coupled with a ring gear of said double pinion planetary gear train;

said output shaft is coupled with a carrier of said double pinion planetary gear train through a part between said input shaft and said power splitting planetary gear; and

said first rotor of said first electric motor is coupled with a sun gear of said double pinion planetary gear train.

23. (withdrawn): The hybrid driving unit as set forth in Claim 19, wherein said power splitting planetary gear comprises a double pinion planetary gear train;

said input shaft is coupled with a ring gear of said double pinion planetary gear train;

said output shaft is coupled with a sun gear of said double pinion planetary gear; and

said first rotor of said first electric motor is coupled with a carrier of said double pinion planetary gear on a side of the first rotor of said first electric motor.

24. (withdrawn): The hybrid driving unit as set forth in anyone of Claim 1, wherein said transmission comprises a planetary gear.

25. (withdrawn): The hybrid driving unit as set forth in Claim 24, wherein said transmission comprises at least four shifting elements, a first shifting element of said at least four shifting elements is coupled with said second rotor of said second electric motor, said second shifting element of said at least four shifting elements is coupled with said output shaft and said transmission comprises braking elements which are capable of fixing third and fourth shifting elements of said at least four shifting elements to said casing member, respectively.

26. (withdrawn): The hybrid driving unit as set forth in Claim 24, wherein said planetary gear of said transmission comprises a Ravigneaux type planetary gear and a carrier of said Ravigneaux type planetary gear is coupled with said output shaft.

27. (withdrawn): The hybrid driving unit as set forth in anyone of Claim 1, wherein one of said first and second electric motors is a device heavier than said power splitting planetary gear and said transmission.

28. (withdrawn): The hybrid driving unit as set forth in Claim 1, wherein supporting members extending from said casing member support both sides of said rotor of said one of said first electric motor and said second electric motor disposed in the rearmost end through an intermediary of bearing members; and

said mounting section is provided between a front supporting member and a rear supporting member.

29. (withdrawn): The hybrid driving unit as set forth in Claim 1, wherein supporting members extending from said casing member support both sides of said rotor of said one of said first electric motor and said second electric motor disposed in the rearmost end through an intermediary of bearing members; and

said mounting section is provided at a position on a rear side of a rear supporting member among said supporting members.

30. (withdrawn): A vehicle comprising an internal combustion engine, hybrid driving means and rear wheels as driving wheels to which driving force is transmitted from said hybrid driving means,

wherein said hybrid driving means is said hybrid driving unit described in Claim 1; and

said hybrid driving unit is disposed such that the input and output shafts on the axis are longitudinally disposed substantially on a same axial line with a propeller shaft as said internal combustion engine is disposed on a front side of the body.

31. (new) The hybrid driving unit as set forth in Claim 1, wherein a driving torque of the second electric motor is transmitted with the output shaft only via the transmission.